

1 **WHAT IS CLAIMED IS:**

2 1. A locking device for a treadmill having a collapsible treadmill deck
3 and a base assembly to lock the collapsible treadmill deck in a folded position
4 relative to the base assembly and the locking device comprising:

5 a telescopic tube to support the collapsible treadmill deck in the folded
6 position and comprising

7 an outside tube having an exterior periphery, a top end with an
8 opening, a bottom end to be pivotally mounted to the base assembly and a pawl
9 hole defined through the exterior periphery; and

10 an inside tube telescopically mounted in the outside tube and
11 having an inside end telescopically mounted in the opening at the top end of the
12 outside tube, an outside end to be pivotally mounted on the collapsible treadmill
13 deck and at least one positioning hole aligned with the pawl hole; and

14 a latch interlocking the inside tube with the outside tube in position as
15 the treadmill deck is folded up to the folded position and the latch comprising

16 a stationary bracket fastened on the exterior periphery of the
17 outside tube and corresponded to the pawl hole; and

18 a pivot pawl pivotally mounted on the stationary bracket and
19 having an inside end extended into the pawl hole to engage one of the at least one
20 positioning hole to interlock the inside tube with the outside tube.

21 2. The locking device as claimed in claim 1, wherein the pivot pawl
22 further has a through hole, a transverse groove and an inclined surface, and the
23 transverse groove and the inclined surface are formed at the inside end of the
24 pivot pawl;

1 the stationary bracket comprises a stationary base with a top and two
2 sides, and a side wall formed upward at one of the sides, protruded from the top
3 of the stationary base and having a top, two opposite sides and a transverse
4 elongated hole defined through the sides of the side wall; and
5 the latch further comprises
6 a movable pawl bracket movably mounted on the stationary
7 bracket and comprising
8 a sliding base slidably mounted on the top of the
9 stationary base of the stationary bracket and having a top and a side; and
10 a guiding side wall protruded vertically from the top at
11 the side of the sliding base and having two sides and a pin hole defined through
12 the sides of the guiding side wall and aligned with the transverse elongated hole
13 in the stationary bracket;
14 a connecting pin connecting the movable bracket to the
15 stationary bracket and comprising
16 a shank having a distal end, a proximal end and an
17 annular groove formed at the proximal end, and the proximal end extended into
18 the transverse elongated hole in the stationary bracket and the pin hole in the
19 movable bracket, and extended out of the through hole of the pivot pawl; and
20 an enlarged head formed integrally at the distal end of
21 the connecting pin;
22 a torsional spring mounted on the shank of the connecting pin
23 between the pivot pawl and the guiding side wall of the movable bracket to
24 provide a restitution force to pivot the pivot pawl; and

1 a clamp attached to the annular groove of the shank to hold the
2 pivot pawl with the connecting pin.

3 3. The locking device as claimed in claim 2, wherein

4 the stationary bracket further has a stationary spring holder protruded
5 from one of the sides of the side wall;

6 the movable bracket further has a movable spring holder protruded from
7 one of the sides of the guiding side wall; and

8 the latch further comprises a restitution spring attached to the stationary
9 spring holder and the movable spring holder.

10 4. The locking device as claimed in claim 2, wherein the side wall of the
11 stationary bracket further has a hook formed at the top and bent toward the
12 stationary base at one of the sides of the side wall, and the guiding side wall is
13 slidably held by the hook and further has an outside end and a grip formed at the
14 outside end of the guiding side wall.

15 5. The locking device as claimed in claim 3, wherein the side wall of the
16 stationary bracket further has a hook formed at the top and bent toward the
17 stationary base at one of the sides of the side wall, and the guiding side wall is
18 slidably held by the hook and further has an outside end and a grip formed at the
19 outside end of the guiding side wall.

20 6. The locking device as claimed in claim 2, wherein the clamp is a C-
21 clamp.

22 7. The locking device as claimed in claim 5, wherein the clamp is a C-
23 clamp.

24 8. The locking device as claimed in claim 1, wherein the stationary

1 bracket comprises a stationary base and a side wall protruded from the stationary
2 base; and

3 the latch further comprises

4 a connecting pin mounted on the side wall to pivotally hold the pivot
5 pawl;

6 a torsional spring mounted on the connecting pin between the side wall
7 and the pivot pawl; and

8 a pivotal handle attached to the pivot pawl to pivot the inside end of the
9 pivot pawl out of the engaged one of the at least one positioning hole.

10 9. The locking device as claimed in claim 1, wherein the stationary
11 bracket comprises a stationary base and a side wall protruded from the stationary
12 base; and

13 the latch further comprises

14 a connecting pin mounted on the side wall to pivotally hold the pivot
15 pawl;

16 a torsional spring mounted on the connecting pin between the side wall
17 and the pivot pawl; and

18 a pulling cord attached to the pivot pawl to pivot the inside end of the
19 pivot pawl out of the engaged one of the at least one positioning hole.